Buildings Technology Research and Development Subcommittee Meeting

December 16, 2010

Location: 950 L'Enfant Plaza DOE
Time: 1:30-3:30 p.m.

Attendees[1]	**Agency/Office**	
Shyam Sunder (telephone)	DOC/NIST	BTRD Co-chair
Roland Risser	DOE/EE-Buildings	BTRD Co-chair
Kevin Hurst (telephone)	EOP/OSTP	
William Grosshandler	DOC/NIST	
Paul Domich	DOC/NIST	BTRD Ex-Sec
Steve Bushby (telephone)	DOC/NIST	
George Hernandez	DOE/EE-Buildings/PNL	
Alan Schroeder	DOE/EE-Buildings	
Diane Stewart (telephone)	HHS	
Ted Kozak	HHS	
Dale Manty	EPA	
Chris Weber	STPI	
Joni Teter	GSA	
Judith Heerwagen	GSA	
Kinga Porst	GSA	
Bill Brodt	NASA	
Kurt Knight	VA	
Amber Van Amburg	GSA	
Echton English	NSA	
Ilker Adiguzel	USACE	
Marty Savoy	USACE	
Sarah Ryker	STPI	
John Taggart	STPI	

Next Meeting: January 20, 2011 1:30 - 3:30 PM, 950 L'Enfant Plaza DOE

Meeting Calendar:

January 20, 2011	July 21, 2011
February 17, 2011	August 18, 2011
March 17, 2011	September 15, 2011
April 21, 2011	October 13, 2011
May 19, 2011	November 17, 2011
June 16, 2011	December 15, 2011

[1] Active Members not attending identified in light gray

Introductions: BTRD Co-Chair, Shyam Sunder (NIST) opened the monthly meeting of the Subcommittee for Buildings Technology Research and Development (BTRD) welcoming the agency representatives and thanking them for their participation. Due to the inclement weather conditions, a large number of participants teleconferenced into the meeting. All participants provided self-introductions.

Review of Minutes: Members reviewed the October BTRD Minutes prior to the start of the meeting.

Greenbuild International Conference and Expo Summary: Dale Manty (EPA) provided a short overview of the Greenbuild conference held in Chicago on Nov 17-19. The Greenbuild International Conference and Expo is presented by the U.S. Green Building Council. Over 30,000 people attended the conference, including 1,700 vendors. The conference consists of three days of educational sessions, speakers, green building tours, special seminars, and networking events. Many of the events were noteworthy though of particular interest to the BTRD were several new Dashboard technologies presented at the Expo.

BTRD 2011 Activities: Sunder opened the discussion of future planned BTRD activities by recapping the prior successful activities of the BTRD. These recent activities included release of the Federal R&D Agenda, implementation plans for the Agenda and an expanded GHG reduction R&D Agenda, a high-level policy paper focused on technology and policy priorities for high-performance green buildings, and the Submetering Whitepaper. The BTRD also co-sponsored a very successful WH Summit and Workshop in partnership with CEQ, GSA, and the National Academy of Sciences (NAS).

Sunder then summarized the three areas, presented by Kevin Hurst (OSTP) at the October meeting, which the BTRD may consider focusing its activities in 2011. These three general areas were 1) development and documentation of more detailed submetering case studies, 2) leveraging building energy performance data for commercial buildings, and 3) examination of future needs for automated building control systems (intelligent buildings). Sunder then opened the floor to the members on other areas to consider for BTRD in 2011.

Manty opened this discussion by proposing that the general strategy for high-performance green buildings in 2011 should be discussed by the BTRD along with other leading groups involved in this topic. Those would include senior leaders at CEQ, GSA, DOE and EPA, along with representatives from the Federal Facilities Council, Interagency Working Group, and the NAS Study participants. Manty also suggested that this planning be a one or two day event, outside of Washington so to focus the attention of the participants on a detailed planning agenda and informational briefings. Participants would discuss strategies for advancing the sustainability and energy efficiency goals, improving

federal agency response to EO 13514, and addressing EOP/OMB expectations for agencies in 2011.

After considerable discussion on the topic, several barriers were identified including: difficulties scheduling top-level people for such an event, travel-related inhibitors for senior leader participation, potential conflicts with the roles and responsibilities of the Sustainability Council established by EO 13514.

The discussion then focused on the expectations placed on the BTRD by the NSTC, COT, and the Office of Science and Technology Policy. Sunder summarized an EOP-lead initiative focused on the second topic presented earlier – leveraging commercial building energy data. Sunder provided additional details on the initiative. Envisioned is an open standards platform for an initial web accessible prototype information system for use in collecting, transmitting, storing, accessing, and viewing energy use data in commercial, federal, and residential buildings.

The data effort will focus on data for 1) monitoring and tracking building usage and performance data, 2) changing behaviors of building operators and occupants, and 3) integrating and leveraging building data with data from the smart grid. The data types, frequency, and the resolution of the data required will vary depending on the application and need. In order to proceed in a timely manner, data standards are needed for the types, descriptions, and format for the data, similar to what was done for data standards for the smart grid.

This type of data is appropriate for inclusion in the building information model (BIM) approach and building design software for use by EIS system developers, owners and operators of federal and commercial buildings, and building system and product developers. Relevant Federal building data, enabled by ARRA investments, should be available shortly for inclusion in this effort.

CEQ, OSTP, DOE, and NIST have been collaboratively developing this initiative. Nick Sinai (OSTP/NIST) is leading this effort. Sinai is working closely with Aneesh Chopra (OSTP) and others in EOP, NIST, DOE and elsewhere to get this initiative started.

Based upon this discussion, the BTRD endorsed a proposal to support the development of a Data Summit organized through OSTP. Ideally, this meeting would include key federal leaders, private sector stakeholders and product/software developers, utility companies, and appropriate industry associations. The outcomes should include both short- and longer-term goals.

George Hernandez (PNNL) offered another area to focus BTRD activities in 2011. Hernandez summarized the problem encountered in the development of the Submetering Whitepaper – the lack of adequate documentation of cost, configurations, and performance specifications for submetering projects. Proper

documentation is challenging as the types of configurations, intended uses, and needs, and numerous extraneous constraints vary widely based upon the application. For each submetering application, the facility owner must address a wide range of requirements, configurations, and procurement-based specifications. Presently, there is little motivation for the product/meter manufacturers to streamline the process or lower the cost of their devices.

Hernandez proposed developing a generic set of “best in class” requirements for a metering/monitoring application. These requirements and specifications would align with federal procurement requirements and procedures. The requirements, made available to federal facilities managers, would encourage “group buys” of equipment and services to reduce costs and improve outcomes.

Barriers to this proposal focused on the absence of a solid business case methodology for submetering that would quantify benefits, define proven configurations and system performance characteristics, and analyze the associated costs and benefits. Without the business case development, it is difficult to define the procurement requirements or the volume of devices, software, and services needed for federal buildings.

The subcommittee discussion then returned to an earlier proposal on developing and documenting additional detailed submetering case studies as a means to advance the business case methodology. Better case studies will elucidate the applications, configurations, costs, and their return on investments – all essential elements to a business case methodology.

Also of interest in the case study development is a better understanding of how occupants’ behavior can be influenced, the types and functionalities of the energy management system, and effective strategies to improve energy efficient operations and energy conservation. In all three areas, the persistence of these changes and strategies over time must be better understood. For some agencies, these areas represent immediate needs as several significant federal submetering projects are currently under construction.

In summary, Sunder suggested that several of these activities could proceed in parallel. Summaries of new ideas presented at the meeting will be documented and shared with BTRD members. Further discussion of these topics will ensue.

Submetering Report: Paul Domich (BTRD Ex Sec) reviewed the final status of the submetering report developed by the BTRD. A cover letter addressed to the Committee on Technology has been approved by the BTRD Co-chairs seeking review and approval to release publically. Domich will follow through with submitting the report for final approval to publically release.

Closure: Sunder thanked the participants for the contributions and the meeting adjourned at 3:30pm.